

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Original) A system comprising:
 - a first programmable voltage line;
 - a second programmable voltage line;
 - a power control signal line;
 - a first programmable voltage supply, coupled to the first programmable voltage line, wherein based on a signal received at a first control input of the first programmable voltage supply, the first programmable voltage supply generates a voltage on the first programmable voltage line;
 - a second programmable voltage supply, coupled to the second programmable voltage line, wherein based on a signal received at a second control input of the second programmable voltage supply, the second programmable voltage supply generates a voltage on the second programmable voltage line; and
 - a power controller block, coupled to the power control signal line, wherein based on a signal on the power control signal line, the power controller block generates signals for the first and second control inputs.
2. (Original) The system of claim 1 further comprising:
 - a connector coupled to the first programmable voltage line, second programmable voltage line, and power control signal line, wherein the connector is for receiving at least one of a module, daughter board, integrated circuit, programmable logic integrated circuit, field programmable gate array, programmable logic device, gate array, application specific integrated circuit, programmable system-on-a-chip, digital signal processor, microprocessor, or controller.
3. (Original) The system of claim 1 further comprising:

a component, coupled to the first programmable voltage line, second programmable voltage line, and power control signal line, generating a signal on the power control signal line to direct the first programmable voltage supply to generate a voltage on the first programmable voltage line having a first voltage level and direct the second programmable voltage supply to generate a voltage on the second programmable voltage line having a second voltage level, independent of the first voltage level.

4. (Original) The system of claim 3 wherein the component is at least one of a module, daughter board, integrated circuit, programmable logic integrated circuit, field programmable gate array, programmable logic device, gate array, application specific integrated circuit, system on a chip, programmable system-on-a-chip, digital signal processor, microprocessor, or controller.

5. (Original) A system comprising:
a first voltage supply line, connectable to a first pin of an integrated circuit;
a second voltage supply line, connectable to a second pin of the integrated circuit;
a first programmable voltage supply, coupled to the first voltage supply line,
comprising a first power supply input line to control a voltage level on the first voltage supply line;
a second programmable voltage supply, coupled to the second voltage supply line,
comprising a second power supply input line to control a voltage level on the second supply line;
and
a power supply control circuit, coupled to the first and second power supply inputs.

6. (Original) The system of claim 5 comprising:
a power control signal line, connectable to a receive a signal from the integrated circuit and coupled to the power supply control circuit, wherein based on the signal on the power control signal line, the power supply control circuit generates signals on the first and second power supply input lines to set voltage levels on the first and second voltage supply lines.

7. (Original) The system of claim 5 wherein the integrated circuit is at least one of a field programmable gate array, programmable logic device, or digital signal processor.

8. (Original) The system of claim 5 wherein voltage levels on the first and second supply lines may be set independently of each other.

9. (Original) A system comprising:
a first module connector for connecting to a first module comprising a first integrated circuit, wherein the module connector comprises a first programmable voltage line and first power control signal line;
a first programmable voltage supply, coupled to the first programmable voltage line of the first module connector, wherein based on a signal received at a first control input of the first programmable voltage supply, the first programmable voltage supply generates a voltage on the first programmable voltage line; and
a first power controller block, coupled to the first power control signal line of the module connector, wherein based on a signal on the first power control signal line, the first power controller block generates a signal for the first control input.

10. (Original) The system of claim 9 wherein the first integrated circuit comprises a programmable logic portion.

11. (Original) The system of claim 9 wherein the first integrated circuit comprises at least one of programmable logic integrated circuit, field programmable gate array, programmable logic device, gate array, application specific integrated circuit, programmable system-on-a-chip, digital signal processor, or microprocessor.

12. (Original) The system of claim 9 further comprising:
a second programmable voltage supply, coupled to a second programmable voltage line of the first module connector, wherein based on a signal received at a second control input of the second programmable voltage supply, the second programmable voltage supply generates a voltage on the second programmable voltage line.

13. (Original) The system of claim 9 further comprising:

a second module connector for connecting to a second module comprising a second integrated circuit, wherein the module connector comprises a second programmable voltage line and second power control signal line; and

a second programmable voltage supply, coupled to the second programmable voltage line of the second module connector, wherein based on a signal received at a second control input of the second programmable voltage supply, the second programmable voltage supply generates a voltage on the second programmable voltage line,

wherein the second power control signal line is coupled to the first power controller block, and based on a signal on the second power control signal line, the first power controller block generates a signal for the second control input.

14. (Original) The system of claim 9 further comprising:

a second module connector for connecting to a second module comprising a second integrated circuit, wherein the module connector comprises a second programmable voltage line and second power control signal line;

a second programmable voltage supply, coupled to the second programmable voltage line of the second module connector, wherein based on a signal received at a second control input of the second programmable voltage supply, the second programmable voltage supply generates a voltage on the second programmable voltage line; and

a second power controller block, coupled to the second power control signal line of the module connector, wherein based on a signal on the second power control signal line, the second power controller block generates a signal for the second control input.

15. (Original) The system of claim 9 wherein the first module connector removably couples to a first module.

16. (Original) A system comprising:

a first integrated circuit comprising a first voltage pin and a first power control signal pin;

a first programmable voltage supply, coupled to the first voltage pin, wherein based on a signal received at a first control input of the first programmable voltage supply, the first programmable voltage supply generates a voltage on the first voltage pin; and

a first power controller block, coupled to the first power control signal pin, wherein based on a signal on the first power control signal pin, the first power controller block generates a signal for the first control input.

17. (Original) The system of claim 16 wherein the first integrated circuit comprises at least one of programmable logic integrated circuit, field programmable gate array, programmable logic device, gate array, application specific integrated circuit, programmable system-on-a-chip, digital signal processor, or microprocessor.

18. (Original) The system of claim 16 further comprising:

a second programmable voltage supply, coupled to a second voltage pin of the first integrated circuit, wherein based on a signal received at a second control input of the second programmable voltage supply, the second programmable voltage supply generates a voltage on the second voltage pin.

19. (Original) The system of claim 18 based on a signal on the first power control signal pin, the first power controller block generates a signal for the second control input.

20. (Original) The system of claim 16 wherein the first integrated circuit comprises a second power control signal pin, and the system comprises:

a second programmable voltage supply, coupled to a second voltage pin of the first integrated circuit, wherein based on a signal received at a second control input of the second programmable voltage supply, the second programmable voltage supply generates a voltage on the second voltage pin,

wherein based on a signal on the second power control signal pin, the first power controller block generates a signal for the second control input.

21. (New) A method comprising:
providing a first integrated circuit comprising a first integrated circuit voltage pin and a first integrated circuit control pin;
providing a first variable voltage supply circuit, wherein a voltage level provided at a first voltage supply output line is based on a signal at a first voltage supply control input pin;
coupling the first voltage supply output line to the first integrated circuit voltage pin; and
coupling the first voltage supply control input pin to the first integrated circuit control pin.

22. (New) The method of claim 21 further comprising:
in a first operating mode, providing a signal at the first voltage supply control input pin to provide a first voltage level at the first integrated circuit voltage pin; and
in a second operating mode, providing a signal at the first voltage supply control input pin to provide a second voltage level at the first integrated circuit voltage pin, where the second voltage level is different from the first voltage level.

23. (New) The method of claim 22 further comprising:
while operating the first integrated circuit, changing from the first operating mode to the second operating mode.

24. (New) The method of claim 21 further comprising:
providing a second integrated circuit voltage pin and a second integrated circuit control pin of the first integrated circuit;
providing a second variable voltage supply circuit, wherein a voltage level provided at a second voltage supply output line is based on a signal at a second voltage supply control input pin;
coupling the second voltage supply output line to the second integrated circuit voltage pin; and

coupling the second voltage supply control input pin to the second integrated circuit control pin.

25. (New) The method of claim 24 wherein the first and second variable voltage supply circuits are integrated into a single circuit block.

26. (New) The method of claim 24 wherein the voltage level at the second voltage supply output line is different from the voltage level at the first voltage supply output line.

27. (New) A method comprising:
providing an integrated circuit comprising a first integrated circuit voltage pin;
providing a first variable voltage supply circuit, wherein a voltage level provided at a first voltage supply output line is varied based on a first input signal;
coupling the first voltage supply output line to the first integrated circuit voltage pin;

in a first operating mode and when the first input signal is in a first state,
providing a first voltage level at the first integrated circuit voltage pin;

in a second operating mode and when the first input signal is in a second state,
providing a second voltage level at the first integrated circuit voltage pin, wherein the second voltage level is different from the first voltage level; and

while operating the integrated circuit, altering the first input signal to change from the first operating mode to the second operating mode, or to change from the second operating mode to the first operating mode.

28. (New) The method of claim 27 further comprising:
providing a second variable voltage supply circuit, wherein a voltage level provided at a second voltage supply output line is varied based on a second input signal;
coupling the second voltage supply output line to a second integrated circuit voltage pin of the first integrated circuit; and

while operating the integrated circuit, providing a third voltage level at the second voltage supply output line while a voltage level at the first integrated circuit voltage pin is at the first voltage level of the second voltage level.

29. (New) A method comprising:

(a) providing an integrated circuit comprising a first integrated circuit voltage pin and a second integrated circuit voltage pin;

(b) providing a first variable voltage supply circuit, wherein a voltage level provided at a first voltage supply output line is varied based on a first input signal;

(c) coupling the first voltage output line to the first integrated circuit voltage pin, wherein a first voltage level is on the first voltage output line;

(d) providing a second variable voltage supply circuit, wherein a voltage level provided at a second voltage supply output line is varied based on a second input signal; and

(e) coupling the second voltage output line to the second integrated circuit voltage pin, wherein a second voltage level is on the second voltage line.

30. (New) The method of claim 29 further comprising:

(f) altering the first input signal.

31. (New) A method comprising:

(a) providing a first integrated circuit comprising a first integrated circuit voltage pin;

(b) providing a second integrated circuit comprising a second integrated circuit voltage pin;

(c) providing a first variable voltage supply circuit, wherein a voltage level provided at a first voltage supply output line is varied based on a first input signal;

(d) coupling the first voltage output line to the first integrated circuit voltage pin, wherein a first voltage level is on the first voltage output line;

(e) providing a second variable voltage supply circuit, wherein a voltage level provided at a second voltage supply output line is varied based on a second input signal; and

(f) coupling the second voltage output line to the second integrated circuit voltage pin, wherein a second voltage level is on the second voltage line.

32. (New) The method of claim 31 further comprising:

(g) altering the first input signal.